

WHAT IS CLAIMED IS:

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1. A method of reserving a transmission band of a transmission line for transmitting data via a plurality of Internet service providers on the Internet between first and second communication devices, the method comprising the steps of:

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(a) the first communication device requesting an intermediary server to reserve the transmission band; and

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(b) the intermediary server reserving the transmission band for the first and second communication devices.

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2. The method as claimed in claim 1, wherein the first communication device transmits IP addresses of the first and second communication devices, IP addresses of routers on the transmission line, and a desired band value to be reserved to the intermediary server.

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3. The method as claimed in claim 2, wherein the intermediary server identifies band reservation setting servers for the routers from the IP addresses thereof, the band reservation setting servers causing their respective routers to reserve the transmission band.

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4. The method as claimed in claim 3,
wherein the intermediary server identifies the band
reservation setting servers by referring to a table
on which IP addresses of the band reservations
5 servers are recorded so as to be correlated with
those of their respective routers.

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5. The method as claimed in claim 3,
wherein the band reservation setting servers cause
their respective routers to reserve the transmission
band in accordance with band setting requests
15 transmitted from the intermediary server.

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6. The method as claimed in claim 3,
further comprising the steps of:

(c) the first communication device
requesting the intermediary server to release the
reserved transmission band; and

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(d) the intermediary server releasing the
reserved transmission band.

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7. The method as claimed in claim 6,
wherein the intermediary server instructs the band
reservation setting servers to release the reserved
transmission band.

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8. The method as claimed in claim 7,
wherein the band reservation setting servers cause
their respective routers to release the reserved
transmission band in accordance with band release
5 requests transmitted from the intermediary server.

10 9. The method as claimed in claim 2,
wherein the intermediary server, instead of the
desired band value, utilizes an ID of one of the
Internet service providers to which one the second
communication device is connected and IP addresses
15 of communication devices connected to the one of the
Internet service providers, the ID and the IP
addresses being transmitted from the one of the
Internet service providers.

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10. The method as claimed in claim 9,
wherein the desired band value is a transmission
25 rate at which the second communication device is
connected to the one of the Internet service
providers.

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11. The method as claimed in claim 10,
wherein the intermediary server transmits an inquiry
about the transmission rate to the one of the
35 Internet service providers.

12. The method as claimed in claim 11,
wherein the one of the Internet service providers
responds to the inquiry from the intermediary server.

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13. The method as claimed in claim 1,
wherein the first communication device transmits IP
10 addresses of the first and second communication
devices, and IP addresses of routers on the
transmission line to the intermediary server.

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14. The method as claimed in claim 1,
wherein a desired value of the transmission band is
a transmission rate at which the second
20 communication device is connected to a corresponding
one of the Internet service providers.

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15. The method as claimed in claim 14,
wherein the intermediary server transmits an inquiry
about the transmission rate to the corresponding one
of the Internet service providers.

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16. The method as claimed in claim 15,
35 wherein the corresponding one of the Internet
service providers responds to the inquiry from the
intermediary server.

17. The method as claimed in claim 1,
wherein:

the second communication device is
connected to one of the Internet service providers
5 which one includes a copy server having a copy of a
content distributed by the first communication
device; and

the first communication device, based on a
request of the second communication device for the
10 content, informs the copy server that the content is
distributed from the copy server to the second
communication device by reserving a transmission
band therebetween.

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18. The method as claimed in claim 17,
wherein the copy server transmits an IP address
20 thereof, an IP address of the second communication
device, a desired band value to be reserved, and IP
addresses of all routers between the copy server and
the second communication device to the intermediary
server.

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19. A method of reserving a transmission
30 band of a transmission line for transmitting data
via a plurality of Internet service providers on the
Internet between first and second communication
devices in compliance with an RSVP, the method
comprising the steps of:

35 (a) the first communication device
transmitting data including an ID of the first
communication device to the second communication

device through routers on the transmission line;

(b) the second communication device transmitting to the routers an instruction with the ID to reserve the transmission band; and

5 (c) the routers reserving the transmission band.

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20. The method as claimed in claim 19, wherein the routers prestore the ID.

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21. The method as claimed in claim 19, wherein the second communication device prestores a value of the reserved transmission band and includes
20 the value in the instruction.

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22. The method as claimed in claim 19, wherein the routers record data on a usage of the RSVP with the ID.

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23. The method as claimed in claim 19, further comprising the step of (d) an intermediary server issuing the ID under contracts with the
35 Internet service providers including the routers and the first communication device using the RSVP to pay for a usage of the RSVP.

24. The method as claimed in claim 23,
further comprising the step of (e) the intermediary
server, when informed of the usage of the RSVP from
the Internet service providers, generating a trigger
5 to pay the Internet service providers for the usage
of the RSVP and a trigger to bill the first
communication device for the usage of the RSVP.

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25. The method as claimed in claim 24,
wherein the intermediary server specifies the first
communication device based on the ID issued thereto
15 in generating the trigger to charge the first
communication device.

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26. A device for reserving a transmission
band of a transmission line for transmitting data
via a plurality of Internet service providers on the
Internet between first and second communication
25 devices, wherein:

the transmission band is reserved at a
request of the first communication device to reserve
the transmission band.

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27. A device for reserving a transmission
band of a transmission line for transmitting data
35 via a plurality of Internet service providers on the
Internet between first and second communication
devices, the device comprising:

a first part storing IP addresses of servers of the Internet service providers, the servers reserving the transmission band;

5 a second part storing a request of the first communication device to reserve the transmission band; and

a third part storing results of reservations of the transmission band, the results being returned from the servers,

10 wherein the device, upon receiving the request of the first communication device, refers to the first and second parts to instruct the servers to reserve the transmission band, recording the results of the reservations returned from the
15 servers, and informing the first communication device whether a reservation of the transmission band is confirmed.